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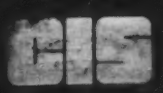

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SENATE

REPORT
101-523

NONINDIGENOUS AQUATIC NUISANCE ACT OF 1990

OCTOBER 11 (legislative day, OCTOBER 2), 1990.—Ordered to be printed

Mr. BURDICK, from the Committee on Environment and Public Works, submitted the following

REPORT

[To accompany S. 2244]

The Committee on Environment and Public Works, to which was referred the bill (S. 2244) to prevent and control infestations of the coastal and inland waters of the United States by the zebra mussel and other nonindigenous aquatic nuisance species, having considered the same, report favorably thereon with amendments and recommend that the bill as amended do pass.

GENERAL STATEMENT

The legislation establishes a Federal task force, chaired by the Under Secretary of Commerce for Oceans and Atmosphere and the Director of the United States Fish and Wildlife Service, to carry out programs to minimize the risk of unintentional introduction and spread of nonindigenous aquatic species in waters of the United States; to monitor nonindigenous species that are introduced to U.S. waters; to control nonindigenous species that become established and that threaten the ecological characteristics of U.S. waters or the development dependent upon such waters; and to carry out research and education related to these efforts. Specific Federal programs are established to control the zebra mussel and the brown tree snake. A Great Lakes Aquatic Nuisance Commission is established to coordinate regional, State and local efforts related to nonindigenous aquatic nuisance species. A program of research and technology development is established under the Secretary of the Army for the management of zebra mussels at public infrastructure facilities. A study of the fishery resources of the Great Lakes is authorized.

S323-20

BACKGROUND AND NEED

Aquatic species, when introduced from their native environment to uncolonized ecosystems, can overpopulate in the absence of their natural predators and seriously damage the receiving ecosystem and the economy it supports. Known as "nonindigenous aquatic nuisances," these displaced organisms may reduce biological diversity, including that of native commercial and sport fisheries. In addition, aquatic nuisances may cause damage to physical structures and detract from the aesthetic and recreational value of water resources. All United States waters, both fresh and saline, are vulnerble to infestations by nonindigenous aquatic nuisance species. Many such infestations are the result of unintentional introductions.

At present, there is no national policy to minimize the risk of unintentional introduction of nonindigenous aquatic species or to control such species that become established and create a nuisance. A national program with these objectives would reduce the risk of costly infestations and ensure cost-effective and environmentally sound control of established nuisance species.

The recent introduction into the United States waters of the zebra mussel *(Dreissena polymorpha)* clearly illustrates the destructive potential of some nonindigenous aquatic species. The zebra mussel is a small filter-feeding mollusk that attaches itself to hard surfaces. It is native to fresh waters in eastern Europe and the Soviet Union and is believed to have been unintentionally introduced to Lake St. Clair in 1986 in ballast water discharged by ships which had taken on fresh water ballast in Europe.

Since 1986, the zebra mussel has spread over a 10,000-square mile area and established itself in all five Great Lakes. It is expected to continue to spread to two-thirds of the Nation's fresh water systems if left unchecked. The zebra mussel attaches itself in layers on the inside of water intake pipes, dramatically reducing the flow of water to municipalities and powerplants. The economic losses to the Great Lakes basin are estimated at $5 billion over the next decade. In addition, the biological impact of the zebra mussel may be dramatic due to its ability to filter large quantities of water. It is possible that the zebra mussel will limit the food available for other species, thus changing the structure of the food web in infested areas.

Some examples of nonindigenous nuisance species in the marine environment include the Japanese seaweed, which threatens shellfish populations along the East Coast, and the Asiatic clam, oriental shrimp and yellow fin goby, which currently disrupt the natural ecology of San Francisco Bay.

The important components of a national program to manage aquatic nuisance species are prevention and control. Monitoring, research, education and coordination are essential for effective prevention and control efforts.

Prevention efforts are aimed at minimizing the risk of unintentional introduction and spread of nonindigenous aquatic species. Minimizing such risks is especially important because once nonindigenous species become established, it is nearly impossible to eliminate them from a receiving ecosystem. In many cases, control

requires substantial and continuous expenditures. In the Great Lakes, for example, the nonindigenous sea lamprey must be kept in check at a cost to the Federal Governments of the U.S. and Canada of $5 to $10 million per year. The importance of prevention in protecting our agricultural resources from nonindigenous pests is reflected in an aggressive national quarantine policy. Equal emphasis on prevention is needed to protect our water resources from unintentional introductions of nonindigenous aquatic species.

Coordination among affected Federal agencies, regional entities, State and local governments and members of the private sector is essential to an effective program to prevent unintentional introduction of nonindigenous species and control of such species that become established and create a nuisance. For example, in the Great Lakes region, municipalities, public utilities, marina operators, private recreational boat owners, shippers and State and Federal agencies are now engaged in managing aspects of the zebra mussel infestation. Federal leadership is needed to promote the use of environmentally sound abatement and control measures by this broad array of involved parties.

According to the Great Lakes Fishery Commission, ships, especially those originating from other continents, are the single most important vector for introduction of nonindigenous aquatic species. Ships transport organisms in their anchor chains and other structural niches. However, ballast--the roughly one million gallons per ship of stabilizing water and sediments that is loaded at ports of origin and discharged at ports of call—provides the greatest opportunity for unintentional transmission of viable biological matter. The source of one-third of the 100 reported nonindigenous aquatic species in the Great Lakes is suspected to result from the ballast exchange practices of ships. Australia already has imposed a ballast management program to protect its growing aquaculture industry from foreign viral, fungal, and bacterial diseases. Canada also has installed a voluntary ballast exchange program directed at protecting the ecology of the Great Lakes.

High seas ballast exchange is not a panacea for prevention of unintentional introductions of nonindigenous aquatic species, and its effects on high seas and coastal ecosystems are largely unknown. Nevertheless, it currently appears to be the most cost- and labor-effective means of reducing the probability of new infestations. Its environmental and economic impacts must be compared against the likely negative impacts of continued unrestricted discharge of viable biological material in the ballast of ships. However, alternative approaches of prevention undoubtedly are warranted in some situations or may replace ballast exchange entirely at some point in the future.

Introduction of the "Nonindigenous Aquatic Nuisance Act of 1990" was a direct response to the zebra mussel infestation of the Great Lakes, but it also was drafted to accommodate the national need for a coherent program to address unintentional introductions of nonindigenous aquatic species. As introduced, title I of S. 2244 established a mandatory ballast water management program for ships entering all U.S. waters to reduce the probability of new introductions. Title II created joint leadership of the Department of Interior and the National Oceanic and Atmospheric Administra-

tion over a comprehensive national program to research and manage established aquatic nuisance species.

A hearing was held on the bill as introduced on June 19, 1990 by the Committee on Environment and Public Works' Subcommittee on Environmental Protection. Witnesses from the Department of Interior, the National Oceanic and Atmospheric Administration, the Coast Guard, and the Environmental Protection Agency testified. Other witnesses included the Great Lakes Commission and an expert on ballast water management practices.

In general, witnesses at the hearing testified strongly in favor of the objectives of S. 2244. The primary issues were the geographic scope and time frame for the proposed mandatory ballast management program, whether to include measures to address intentional introductions of nonindigenous species, and the means by which to implement a program to prevent introductions and control established aquatic nuisance species.

Testimony by the Coast Guard recommended a three year phase-in for a national mandatory ballast management program. During the first year after enactment, the Coast Guard would initiate a voluntary program for the Great Lakes. During the second year, a mandatory program for the Great Lakes would be in place. And during the third year, a national regulatory program of ballast management would be initiated.

With respect to intentional introductions of nonindigenous species, the Department of the Interior testified that a program to monitor and control such species was needed and that the Department of the Interior should be authorized to carry out such a program. Regarding the relative roles of the various Federal agencies, the representative of the National Oceanic and Atmospheric Administration (NOAA) testified to the need for close coordination between NOAA, the U.S. Fish and Wildlife Service, the U.S. Coast Guard, and the EPA in carrying out research on nonindigenous species. The Department of the Interior testified to the need to put less emphasis on defining the roles of NOAA and the Fish and Wildlife Service and more emphasis on what must be done to prevent nonindigenous species introductions and control nuisance species. The amendments approved by the Committee attempt to address the concerns of the testimony presented.

SECTION-BY-SECTION ANALYSIS

Section 1. Short title

Section 1 would provide that the Act may be cited as "The Nonindigenous Aquatic Nuisance Act of 1990".

Section 2. Definitions

Section 2 of S. 2244 would define key terms used in the bill.

The term "ballast" would be defined in a manner to recognize that the water used to manipulate the trim and stability of ships also contains sediments and other materials.

The term "nonidigenous species" would include species and any other viable biological materials, such as viruses. The term includes organisms that are native to an ecosystem of the United

States if the organisms enter another ecosystem of the United States that is outside its historic range.

The term "high seas" would refer to those waters beyond the 200-mile limit of a nation's exclusive economic zone. With respect to the United States the reference to the term "exclusive economic zone" means the zone establihsed by Proclamation Number 5030, dated March 10, 1983.

The term "environmentally sound" would be defined to ensure that, in carrying out measures to prevent unintentional introductions of nonindigenous species and to control aquatic nuisances, every effort is made to mininize adverse environmental effects in the ecosystem targeted and in other non-target ecosystems. Environmentally sound measures also would be defined as ones that emphasize integrated pest management and nonchemical techniques.

The term "aquatic nuisance species" would be defined as a nonindigenous species that threatens the diversity or abundance of native species or the stability of an ecosystem, or that threatens the commercial, agricultural, aquacultural or recreational development dependent upon such an ecosystem. Consequently, the term would not include all nonindigenous species. Instead, it would include only those organisms that pose a substantial risk to native species and ecosystems and the development dependent upon such ecosystems.

The term "Task Force" would be defined to mean the Aquatic Nuisance Species Task Force established under title II of the bill. The Task Force would be chaired jointly by the Director of the U.S. Fish and Wildlife Service and the Under Secretary of Commerce for Oceans and Atmosphere, who are charged with implementation of all duties assigned to the Task Force. In carrying out these duties the co-chairpersons are required to consult and coordinate with the other federal agency Task Force members. Consequently, the term "Task Force" is used in this report as a shorthand for joint implementation by the Director and Under Secretary in consultation and coordination with other Task Force members.

Section 3. Findings

Section 3 of S. 2244 states the findings by Congress. In general, these findings would state that there is a potential for destructive aquatic species to be transported to U.S. waters in the ballast of ships; that the zebra mussel is an organism which was introduced through ballast exchange practices to U.S. waters and which currently infests the lower Great Lakes basin with the potential to spread to areas outside the basin; that the ecological and economic impacts of infestations are likely to be severe; and that prevention, control, education and research coordinated among several agencies is needed to address infestations by nonindigenous aquatic species.

Section 4. Purpose

The purposes of the legislation set forth in section 4 are (1) to prevent unintentional introduction on nonindigenous species; (2) to coordinate federally conducted, funded or authorized prevention, control, research and information dissemination; (3) to contain the

spread of the zebra mussel; (4) with respect to aquatic nuisance species, to develop environmentally sound control methods, to monitor geographic distribution, study basic biology and investigate potential economic, environmental and human health impacts; and (5) to understand and minimize economic and ecological impacts of established aquatic nuisance species.

Title I—Prevention of Unintentional Introductions of Aquatic Nuisance Species

Title I of the reported bill would provide for the establishment of a ballast management program for ships calling at any U.S. port in the Great Lakes, including requirements for ballast exchange, unless or until other alternatives can be substituted.

Section 101. Aquatic nuisance species in the Great Lakes

Section 101 would require the Secretary of the department in which the Coast Guard is operating to issue within six months of enactment voluntary guidelines to prevent the introduction and spread of aquatic nuisance species into the Great Lakes through the ballast of ships. The voluntary guidelines issued by the Secretary should be part of an actively administered program to promote compliance through education, outreach and monitoring. The section would provide that the voluntary measures should be coordinated as much as possible with the existing Canadian voluntary ballast management program.

Within two years of enactment, the Coast Guard would be required to issue binding, ballast management regulations that would apply to all United States-flag and foreign-flag vessels that carry ballast water and that enter a United States port on the Great Lakes after operating on the high seas. These regulations must protect ship safety, apply equally to U.S. or foreign flag ships, and take into consideration different vessel operating conditions. High seas (i.e., waters beyond the limits of the Exclusive Economic Zone of the United States) ballast exchange would be required unless alternative measures are determined to be as effective. The masters of in-coming vessels must certify compliance with ballast management regulations prior to departure from the first lock in the St. Lawrence Seaway. Ships carrying oily ballast would be exempted from ballast management regulations to avoid discharge of chemically contaminated ballast in the high seas. However, ships carrying oily ballast would not be exempted from ballast treatment requirements directed at removing chemical contamination under the Clean Water Act or other federal laws.

Section 101 would provide further that violators of the ballast regulations be subject to civil and criminal penalties. All regulations and guidelines would be required to be developed in consultation with Canada with the intent of achieving an effective bilateral approach to reducing ballast introductions of nonindigenous species. The Secretary also would be encouraged to initiate negotiations with foreign countries through the International Maritime Organization on planning and implementation of programs to prevent and control ballast introduced nonindigenous species.

Section 102. Study on introduction of nonindigenous species by vessels

Section 102 would require an assessment of the need for ballast management programs for U.S. waters other than those in the Great Lakes. The Federal agency Task Force (established under title II and chaired jointly by the Director of the U.S. Fish and Wildlife Service and the Under Secretary of Commerce for Oceans and Atmosphere) would be required to study the extent to which aquatic nuisance species are a problem in U.S. waters other than the Great Lakes. The Coast Guard would be delegated responsibility to determine the need for controls on vessels entering U.S. waters, other than the Great Lakes, to minimize the risk of unintentional introduction and dispersal of aquatic nuisance species.

Title II—Prevention and Control of Aquatic Nuisance Species

Title II of the bill would establish a Task Force of federal agencies, under the leadership of the Departments of Interior and Commerce, to prevent unintentional introductions of nonindigenous aquatic species and to control aquatic nuisance species. The Task Force would be charged with prevention, research, control, education, technical assistance, and coordination functions. The Task Force's responsibilities would be nationwide and would involve significant coordination both within the Task Force and with regional, State and local agencies and entities.

Section 201. Establishment of task force

Section 201 would establish an Aquatic Nuisance Species Task Force consisting of the leadership from six Federal agencies. The Director of the U.S. Fish and Wildlife Service and the Under Secretary of Commerce for Oceans and Atmosphere would be jointly responsible for carrying out responsibilities set forth under title II of the reported, bill. They should fulfill this charge in close cooperation and coordination with other members of the Task Force. The purpose of the Task Force is to develop and implement a coordinated Federal program to prevent and control nonindigenous aquatic nuisances arising from unintentional introductions. Consequently, any Task Force member may be a lead agency in carrying out some part of this program, and it is expected that most Task Force functions will be carried out by many if not all of the Task Force members. The joint chairs of Task Force should facilitate coordination among the Task Force. In addition, each Task Force member would be required to coordinate any action it takes to carry out this legislation with any similar action by other members of the Task Force. To minimize duplication of efforts between the two co-chair agencies, a memorandum of understanding delineating basic roles is required within the first six months after enactment.

Section 202. Prevention of aquatic nuisance species introductions

Section 202 would require that the Director and Under Secretary, in consultation with the other Task Force members, jointly establish a nationwide program to minimize the risk of unintentional introduction of aquatic nuisance species. As part of the program, the Task Force would be required to indentify the principal

vectors by which nonindigenous species are transmitted to uncolonized ecosystems; monitor and characterize these vectors; assess the risk of introductions via the vectors, and the risk that such introduced species may become aquatic nuisances in North American waters; and assess the effectiveness and environmental impacts of methods to prevent introductions by these vectors.

This section would require further that the Task Force implement cooperative and environmentally sound measures to prevent introductions via a vector where it determines that the vector poses a substantial risk of introductions of aquatic nuisance species.

Finally, section 202(c) would require that the Task Force study and report within one year on approaches to reduce the risk of harm from intentional introductions of nonindigenous species. The study would be required to be conducted in close consulation with State fish and wildlife agencies. The term "State fish and wildlife agencies" should be construed to mean any department, or any division of any department of another name, of a State that is empowerd under its laws to exercise the functions ordinarily exercised by a State fish and wildlife agency.

Section 203. Monitoring introductions of aquatic nuisance species

Section 203 of the reported bill would require the Task Force to monitor the introduction, direction and rate of dispersal of nonindigenous aquatic nuisance species.

Section 204. Control of aquatic nuisance species

Section 204 would authorize the Task Force to carry out environmentally sound control of established nonindigenous species where they present a risk to public health, welfare, or the environment and where they create economic impacts to the public or private sectors. Cost-effectiveness of any environmentally sound control measures, including their technical and biological feasibility, should be considered in determining the need to implement control. Control could involve eradication, adaptive engineering, and abatement of spread.

Section 205. Coordination and technical assistance

Section 205 would require that Task Force activities pursuant to title II be coordinated with regional, State and local entities. The section also would authorize the Task Force to provide technical assistance to regional, State and local entities on environmentally sound approaches to prevention and control of aquatic nuisances.

Section 206. International cooperation

Section 206 acknowledges the international scope of aquatic nuisance species management and would require the Task Force to advise the Secretary of State on aquatic nuisances that infest shared water resources. The Secretary also would be encouraged to negotiate with governments of foreign countries on prevention and management of aquatic nuisances in shared water resources.

Section 207. Education and research

Effective abatement and control of aquatic nuisance species requires the participation of non-federal entities and the general public. Section 207(a) would require the Task Force to implement a broad education program to inform relevant groups about preferred prevention, monitoring, abatement and control practices. The NOAA Sea Grant Marine Advisory Services are identified as the principal means of carrying out this outreach. However, other parties may be assigned the role of outreach as appropriate.

Section 207(b) would require that the Task Force investigate environmentally sound aquatic nuisance prevention and management practices to protect native fish and other species and to minimize economic impacts.

Section 207(c) would require the Task Force to conduct a study to assess the environmental effects of high seas ballast exchange on U.S. waters. Concern has been expressed that high seas ballast exchange may result in the introduction of nonindigenous organisms or substances that would adversely affect the native fisheries and other marine life in areas such as Georges Banks and the Gulf of Maine. There is also concern about the impacts of ballast exchange on salinity levels in freshwater systems. This study would be designed to assess the degree of risk of such introductions and resulting adverse effects and to compare that risk to other methods of preventing introductions via ballast exchange.

Under section 207(e), the Task Force would be required to establish a protocol to ensure that research activities do not result in the spread of aquatic nuisance species to uninfested waters. The protocol should be developed for use in the administration of grants under the university grant program. However, all research carried out pursuant to the provisions of the legislation would be required to be in accordance with the protocol. It is extremely important that research authorized under the act not become a vector for transmission of aquatic nuisance species.

Section 207(e) also would require that, to the extent practicable, funds for research be allocated under the section to existing facilities in drainage basins already infested with the species subject to study. It is important that research money not be unnecessarily expended in creation of new facilities.

Section 207(f) would authorize the Task Force to distribute grants on a competitive basis to any university for research on prevention and management of aquatic nuisance species. The Sea Grant College Program and the Cooperative Fishery and Wildlife Research Unit Program are authorized to administer the grants, and to carry out education and assistance services related to prevention and control of aquatic nuisances. Decisions about whether research grants or education and assistance services should be administered through the Sea Grant College Program or the Cooperative Fishery and Wildlife Research Unit Program should be based on the nature of the grant or service and the expertise and efficacy of the program in carrying out such a grant or service.

Section 208. Reports

Section 208 would require the Task Force to submit a report within one year of enactment to Congress regarding the prevention and control of aquatic nuisance species. The Task Force would be required to submit its report on environmental impacts of ballast exchange to Congress within 18 months and prior to promulgation of the mandatory ballast management regulations under title I of this legislation.

Section 209. Injurious species

Section 209 would require the Secretary of the Interior to declare the zebra mussel an injurious species. This section would lead to the prohibition of the interstate transport of zebra mussels for commercial purposes.

Section 210. Zebra Mussel Control Program

Section 210 would require the Task Force to undertake a program of prevention, research and control specifically directed at the zebra mussel in the Great Lakes and other U.S. waters. This effort is intended to be consistent with, and fall within the broader scope of, the other duties assigned the Task Force under the reported bill. Section 120 would ensure that, in implementing this legislation, the Task Force gives priority to control of the zebra mussel.

Section 211. Brown Tree Snake Control Program

Section 211 would require the Task Force to undertake a comprehensive, environmentally sound program of prevention, research and control specifically directed at the brown tree snake. This effort is intended to be consistent with, and fall within the broader scope of, the other duties assigned the Task Force under the reported bill. Section 211 would ensure that, in implementing this legislation, the Task Force gives priority to control of the brown tree snake.

Title III—Great Lakes Aquatic Nuisance Species Prevention and Control Program

Section 301. Establishment of Great Lakes Aquatic Nuisance Commission

Section 301 would establish a Great Lakes Aquatic Nuisance Commission, which would consist of Federal, State, and regional (including international) agencies and other entities, and environmental and private sector interests.

Section 302. Functions of the Great Lakes Aquatic Nuisance Commission

Section 302 would require the Great Lakes Aquatic Nuisance Commission to identify priorities for the Great Lakes with respect to aquatic nuisance species, work with the Task Force to coordinate regional, State and local aquatic nuisance activities within the Great Lakes, and make recommendations to the Task Force regarding the administration of programs under this legislation in the Great Lakes.

Section 303. Administration of Great Lakes Aquatic Nuisance Commission

Section 303 would establish the procedures of the Great Lakes Aquatic Nuisance Commission and clarify that, except as otherwise provided by the legislation, the Commission shall operate pursuant to the Federal Advisory Committee Act.

Section 304. Great Lakes Fishery Commission

Under section 304, the Task Force would be required to request of the Great Lakes Fishery Commission that it designate a representative to serve on the Great Lakes Aquatic Nuisance Commission in order to provide advice on international fishery matters and provide technical services.

Section 305. Great Lakes Commission

Section 305 would require the Task Force to ask the Great Lakes Commission to provide secretarial services to the Great Lakes Aquatic Nuisance Commission and to provide advice and technical resources on economic impacts of aquatic nuisances.

Section 306. Limitation on activities

All activities of the Task Force and the Great Lakes Aquatic Nuisance Commission would be required to conform to international water quality agreements with Canada.

Title IV—Authorization of Appropriations

Title IV of the reported bill would authorize appropriation of $4.1 million for fiscal years 1991 through 1995 to carry out research, education and administrative activities under the bill in the Great Lakes.

In addition, title IV would authorize appropriation of $3.3 million to the Coast Guard for fiscal years 1991 through 1995 to carry out the requirements of title I of the requested bill.

Appropriation of $1.0 million would be authorized for fiscal years 1991 through 1995 for nationwide education and monitoring with respect to aquatic nuisance species.

Finally, to carry out the additional requirements and programs under title II, title IV of the reported bill would authorize appropriation of such sums as may be necessary.

Title V—Zebra Mussel Control Act

Title V of the reported bill is a slightly modified version of legislation previously reported by the Committee as title IV of the Water Resources Development Act of 1990 (Report 101-333). The provisions in this title would establish a program of research and technology development to manage and remove zebra mussels from public infrastructure facilities.

Section 501. Short title

Section 501 would state that this title may be stated as the "Zebra Mussel Control Act of 1990".

Section 502. Definitions

Section 502 would define terms used in the title. The term "environmentally sound" would be defined to mean minimal adverse impacts to non-target organisms and to the structure and function of target and non-target ecosystems. Thus, this term has the same meaning as that which would apply to the first four titles of the reported bill.

Section 503. Findings

Section 503 states the findings of title V with respect to the zebra mussel and its ecological and economic impacts.

Section 504. Purpose

Section 504 states that the purpose of the Act established by title V would be to establish a program of research and technology development for the management and removal of zebra mussels from public infrastructure facilities.

Section 505. Research and development

Section 505 would require the Assistant Secretary of the Army for Civil Works, in consultation with the Director of the U.S. Fish and Wildlife Service and the Administrator of the Environmental Protection Agency, to develop environmentally sound management and control techniques to control zebra mussels at public infrastructure facilities.

Section 506. Zebra Mussel Management Program

Section 506 would specify that the Governor of a State could submit a management plan to the Assistant Secretary of the Army for Civil Works for approval and subsequent funding under the grant program that would be established by section 507. The plan would be required to specify environmentally sound measures to reduce zebra mussel infestations at public infrastructure facilities that need financial and technical assistance in order to maintain operations.

Section 507. Grant Program

Section 507 would authorize the Assistant Secretary of the Army for Civil Works to make grants to assist public infrastructure facilities identified by a State's Governor in the management plan under section 506, which, without additional assistance cannot control zebra mussel infestations. Grants would require a 50 percent cost share from non-Federal interests.

Section 508. Authorization of appropriations

Section 508(a) would authorize appropriation $2.5 million annually for fiscal years 1991 through 1995 to carry out research and technology develoment under section 505.

Section 508(b) would authorize appropriation of $5 million annually for fiscal years 1991 through 1995 for matching grants to States under section 507.

Title VI—Great Lakes Fish and Wildlife Restoration Act of 1990

Section 601. Short title

Section 601 would provide that title VI of the reported bill be cited as the "Great Lakes Fish and Wildlife Restoration Act of 1990".

Section 602. Findings

Under section 602, the Congress would find that the wildife and fisheries of the Great Lakes are economically important to the United States and that they are under increasing pressure.

Section 603. Purposes

The purposes of the Act would be to carry out a comprehensive study of the fishery resources of the Great Lakes, to implement the recommendations resulting from that study, and to provide assistance to the States and other persons to encourage conservation, restoration and management of the fish and wildlife resources of the Great Lakes.

Section 604. Definitions

Section 604 would define certain terms used in title VI of the reported bill. The term "fish stock" would be defined to mean a species or subspecies of fish or any other aggregation of fish that are limited from breeding with individuals of other groups of fish and that are capable of being managed as a unit.

The term "nonindigenous species" would be defined as a species that did not occur in the Great Lakes prior to European colonization of North America.

Section 605. Great Lakes fishery resources restoration study

Section 605 would require the Director of the U.S. Fish and Wildlife Service, in consultation with other Federal agencies and state, tribal and Canadian entities, to conduct a comprehensive study of the fishery resources of the Great Lakes and to develop recommendations to restore and enhance these resources.

Section 606. Implementing activities

Section 606 would require the U.S. Fish and Wildlife Service Director to carry out activities to implement the recommendations developed under the study required by section 605. Appropriate non-Federal interests would be required to contribute to the cost of implementing these recommendations. The Federal share would not be permitted to exceed 80 percent of the total cost.

Section 607. Goals of U.S. Fish and Wildlife service programs related to Great Lakes fishery resources

Section 607 would require the Director of the Fish and Wildlife Service to administer the agency's programs related to the Great Lakes in a manner to achieve certain goals, including maintaining fishery populations and habitat and minimizing impacts of contaminants.

Section 608. Establishment of offices

Section 608 would require the Fish and Wildlife service Director to establish a centrally-located facility to coordinate the agency's activities in the Great Lakes, and to establish an office for implementation of fishery restoration and enhancement projects in the lower Great Lakes.

Section 609. Reports

Section 609 would require the Fish and Wildlife Service Director to submit to Congress within one year of enactment of this legislation a progress report on the required studies and development of recommendations and any implementing activities. A final report would be due by October 1, 1995.

Section 610. Authorization of appropriations

Section 610(a) would authorize appropriation of $50 million over five years (fiscal years 1991 through 1995) to the U.S. Fish and Wildlife Service to carry out work in the Great Lakes Basin. Of this amount, $4 million would be authorized to be appropriated annually to enable the Fish and Wildlife Service to undertake a comprehensive assessment of the Great Lakes' fishery resources under section 605. Another $2 million annually would be authorized for the establishment of a "Lower Great Lakes Fishery Assistance Office" to be centrally located to service Lakes Erie and Ontario. Finally, there would be authorized $4 million annually to set up a Great Lakes Coordination Office within the Fish and Wildlife Service to coordinate the activities among the three Fish and Wildlife regional offices that conduct work within the Great Lakes basin.

Subsections (b) and (c) of section 610 would authorize appropriation of $1.5 million annually for fiscal years 1991 through 1995 to both the Environmental Protection Agency and the Army Corps of Engineers to fund cooperative activities undertaken with the Fish and Wildlife Service under this bill.

HEARINGS

The Subcommittee on Environmental Protection held a hearing on S. 2244 on June 19, 1990.

ROLLCALL VOTES

Section 7(b) of rule XXVI of the Standing Rules of the Senate and the Rules of the Committee on Environment and Public Works require that any rollcall vote taken during consideration of the reported bill be announced in the report.

The Committee on Environment and Public Works considered S. 2244 and the amendments thereto at a meeting on September 25, 1990. The Committee agreed to amendments to the bill and ordered the bill, as amended, reported to the Senate by voice vote. No rollcall votes were taken during consideration of the bill.

REGULATORY IMPACT

In compliance with section 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation

of the regulatory impact of the reported bill. The reported bill does not include any new regulatory authority.

COST OF LEGISLATION

Section 403 of the Congressional Budget Impoundment Act requires that each report contain a statement of the cost of the reported bill prepared by the Congressional Budget Office. That Report follows:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, October 3, 1990.

Hon. QUENTIN N. BURDICK,
Chairman, Committee on Environment and Public Works, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for S. 2244, the Nonindigenous Aquatic Nuisance Act of 1990.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ROBERT D. REISCHAUER,
Director.

CONGRESSIONAL BUDGET OFFICE—COST ESTIMATE

1. Bill number: S. 2244.
2. Bill title: Nonindigenous Aquatic Nuisance Act of 1990.
3. Bill status: As ordered reported by the Senate Committee on Environment and Public Works on September 25, 1990.
4. Bill purpose: S. 2244 would establish new programs to address problems caused by the introduction of certain aquatic species into the Great Lakes and other U.S. waters.

Title I of the bill would initiate a new regulatory program under the jurisdiction of the U.S. Coast Guard (USCG) to stem introductions of nonindigenous species by ships. Under this title, the USCG would have 24 months to promulgate new regulations applying to vessels that carry ballast water into the Great Lakes. Section 102 would mandate one-year studies to assess the need for similar controls for other U.S. waters.

Title II would create a task force consisting of the U.S. Fish and Wildlife Service (USFWS), the Department of Commerce (DOC), and other federal agencies. The task force would be charged with establishing and implementing programs to: (1) prevent unintentional introductions of aquatic species into North American ecosystems, (2) monitor the spread of nonindigenous organisms, and (3) control established nuisance species. In carrying out these programs, the task force would be directed to coordinate with and assist regional, state, and local authorities. Section 207 of the bill would set priorities, funding allocations and other requirements for research carried out under Title II. This section also would provide for related educational and extension services, to be implemented through existing grant programs. Finally, Title II would mandate

additional regulatory and control activities for specific aquatic nuisances such as the zebra mussel and the brown tree snake.

Title III of S. 2244 would establish a 20-member Great Lakes Aquatic Nuisance Commission to advise the task force and address aquatic nuisance problems in the Great Lakes.

Title IV would authorize the appropriation of whatever sums are necessary to implement Titles I, II and III for each of the fiscal years 1991 through 1995. In addition, for each of these years, the title would authorize a total of $8.4 million for specific activities, programs, or grants. Such earmarks would include $3.3 million for USCG regulatory activities, $2.85 million for grants and other federal assistance, and $2.25 million for certain federal research activities.

Title V, the Zebra Mussel Control Act of 1990, would authorize the U.S. Army Corps of Engineers (Corps), in consultation with the USFWS and the Environmental Protection Agency (EPA), to develop a program for the control of zebra mussels in and around infrastructure facilities. A total of $7.5 million would be authorized annually for fiscal years 1991 through 1995, including $2.5 million for research and development, and $5 million for state grants.

Title VI would direct the USFWS to complete a comprehensive study of fishery resources in the Great Lakes basin by October 1, 1993. Under Section 605, study recommendations would be implemented by the agency in conjunction with the Corps and EPA. In addition, the bill would require the USFWS to establish a central Great Lakes Coordination Office and a Lower Great Lakes Fisheries Assistance Office. For each of the fiscal years 1991 through 1995, Title VI would authorize appropriations of $13 million for these activities, including $6 million for the Great Lakes offices, $4 million for USFWS activities, and $1.5 million each for EPA and Corps expenses.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1991	1992	1993	1994	1995
Specific authorizations:					
Authorization level	29	29	29	29	29
Estimated outlays	18	27	29	29	29
Other authorized spending:					
Estimated authorization level	24	24	27	29	29
Estimated outlays	17	21	26	28	29
Total:					
Estimated authorization level	53	53	56	58	58
Estimated outlays	35	47	55	57	57

The costs of this bill fall within budget function 300.

Basis of estimate: For purposes of this estimate, it is assumed that S. 2244 will be enacted early in fiscal year 1991 and that the necessary amounts will be appropriated for each fiscal year. In the above table, the budget impact of S. 2244 has been disaggregated to show spending from specific and estimated authorization levels separately. In the first part, the authorization levels for each fiscal

year are as stated in the bill, including $8.4 million for Titles I through III, $7.5 million for Title V, and $13 million for Title VI.

Amounts shown in the second part represent the estimated costs of carrying out other provisions of Titles I through III, as authorized in Title IV. In addition to the $8.4 million authorized for specific activities, CBO estimates that the USFWS and the DOC need about $24 million for each of the fiscal years 1991 and 1992 to implement these three titles. Annual funding needs for these purposes would rise to $29 million by 1994. Assuming appropriation of these amounts in addition to specific authorizations, the federal government would spend about $23 million in fiscal year 1991, rising to $34 million by 1993, to carry out Titles I through III.

For Titles V and VI, the authorization levels are as stated in the bill. Estimated spending for Title V would be about $3 million in fiscal year 1991, rising to $7.5 million by 1993. About $9 million would be spent in 1991 for Title VI activities, rising to $13 million by 1993. Outlays for all programs have been estimated on the basis of historical patterns for similar programs.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate: During 1990, CBO prepared cost estimates for bills containing provisions similar or identical to those of S. 2244, including H.R. 4299, as ordered reported by the House Committee on Merchant Marine and Fisheries on September 13, 1990, and S. 2740, the Water Resources Development Act of 1990, as ordered reported by the Senate Committee on Environment and Public Works on June 12, 1990. For such provisions, the earlier estimates are identical to those contained in this estimate.

9. Estimate prepared by: Deborah Reis.

10. Estimate approved by: C.G. Nuckols, for James L. Blum, Assistant Director for Budget Analysis.

CHANGES IN EXISTING LAW

Section 12 of rule XXVI of the Standing Rules of the Senate requires publication of any changes in existing law by the reported bill. The bill does not change existing law.

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